

### **Remarks**

Applicants wish to thank the Examiner for the careful consideration given this case. Claims 6-14 are pending in this application. Claim 6 has been amended. Support for all amendments can be found in the Specification as originally filed, specifically at page 5, line 4, page 5, line 31 and page 6, line 6. Applicants submit no new matter has been added.

### **Double Patenting Rejections**

Claims 6 and 7 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over copending Application No. 10/878,080. Applicants herein submit, until allowable subject matter is identified in either the pending Application or the copending Application, it is premature to file a terminal disclaimer in view of the copending Application to obviate the double patenting rejection. See MPEP Section 804.

### **Rejection under 35 U.S.C. § 102**

Claims 1-2, 4-7 and 9, Claims 1 and 4-9, and Claims 1-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hechtman, USPN 2,714,562, Hori et al., USPN 3,600,268, and Hoover, USPN 2,656,292, respectively. Applicants resubmit their previous arguments relating to this rejection.

#### **a. Hechtman**

Hechtman discloses a “cohesive, substantially non-adhesive film” “[c]ontaining a mixture of natural rubber and a ... acrylic nitrile-butadiene copolymer....” (See Col. 2, lines 36-39). In the preferred example and teaching the mixture appears to include a natural rubber, an acrylonitrile(co-butadiene) copolymer, and one or more rosin alcohols. (See Col. 2, lines 43-54) Said rosin alcohols may be up to up to 50% of the weight of the copolymer. (See Col. 2, line 53) Hechtman also suggests to one skilled in the art the necessity of including natural rubber in the mixture so as to achieve the purposes of the invention. (See Col. 2, lines 59-63). It should also be noted, the Hechtman invention appears to be in the form of a Latex material.

In stark contrast to Hechtman stands the present invention in which, at least one embodiment, relates to an adhesive polymer. Independent Claim 6 recites, "self-supporting shaped article comprising an adhesive polymer composite which comprises at least one hydrogenated nitrile polymer derived from at least one conjugated diene, at least one alpha, beta-unsaturated nitrile and one or more unsaturated mono- or dicarboxylic acids or derivative thereof, the polymer having a Mooney viscosity (ML 1+4 @ 100°C) less than 10." Since Hechtman discloses a substantially non-adhesive mixture of natural rubber, co-polymer, and rosin alcohols, in which the claimed polymer is not taught, Hechtman fails to teach either expressly or inherently the presently claimed embodiment of the invention. Applicants respectfully submit that the applied art does not anticipate the present invention because, at the very least, "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under construction." *W.L. Gore & Associates, Inc. v. Garlock*, 721 F.2d 1540, 1554 (Fed. Cir. 1983); see also *In re Marshall*, 198 U.S.P.Q. 344, 346 (C.C.P.A. 1978). And accordingly request withdrawal of this ground of rejection.

*b.     HORI ET AL.*

Hori et al. disclose a surface protective sheet having "[a] flexible plastic sheet ... and a cured acrylic rubber layer ... made by crosslinking a synthetic rubber consisting mainly of acrylic ester." (See Col. 2, lines 24-28) Hori et al. further disclose copolymerization of the acrylic ester with ethylenically unsaturated monomers including acrylonitrile and butadiene. (See Col. 3, lines 1-5) It is clear however that the copolymer disclosed must contain acrylic ester and moreover must have at least 50 mol percent of the copolymer being acrylic ester, if not more, otherwise the invention will not work. (See Col. 2, line 57; See Col. 2, lines 70-72)

It should also be appreciated that while the theoretical copolymerization of an acrylic ester (co-butadiene, co-acrylonitrile) is disclosed, the actual examples relate to no such copolymer. Further the polymer in the Examples of Hori et al. is not an acrylonitrile-butadiene polymer, since the copolymer of the example fails to include

butadiene. Finally, it should also be noted Hori et al. disclose the generalized copolymer having a Mooney value of 20 and in the examples provide Mooney values above 20.

As indicated above, the presently claimed invention comprises a hydrogenated carboxylated nitrile rubber polymer. No such hydrogenated carboxylated rubber is set forth by Hori et al. Since Hori et al. fail to teach or suggest all of the presently claimed limitations of the invention the outstanding anticipation rejection should be properly withdrawn.

c. HOOVER

Hoover relates to non-adhesive liners. In one embodiment the non-adhesive, non-sticking liners are “[m]ade entirely from thin sheets or self-sustaining films of a homogeneous mixture of a vinyl halide polymer with an interpolymer of a butadiene-1,3 hydrocarbon and an acrylic nitrile.” (Col. 2, lines 34-41) The preferred embodiment of the Hoover mixture/blend is a vinyl chloride polymer and butadiene(co-acrylonitrile) copolymer.

In stark contrast to the non-adhesive non-sticky mixture of Hoover, the present invention relates to, an **adhesive polymer composite** comprising a **hydrogenated carboxylated nitrile rubber polymer**. Hoover is a blend of two copolymers resulting in a non-adhesive material. Furthermore, Hoover fails to suggest or teach a hydrogenated nitrile rubber polymer as presently claimed. Therefore, Hoover fails to teach all the presently claimed limitations of the claimed embodiment of the invention and the rejections based thereon should be withdrawn.

Applicants would also like this opportunity to note that the hydrogenation of the a nitrile rubber in which the viscosity is maintained or lowered is clearly not suggested to one skilled in the art viewing the cited references since, *inter alia*, as is generally known in the art the hydrogenation of rubbers normally increases viscosity. As set forth in the Applicants’ disclosure, the hydrogenation of NBR forming HNBR results in an increase to the Mooney viscosity, e.g. a Mooney Increase Ratio (MIR) of 2. Commercially available HNBR generally has a Mooney viscosity of 55-105. To the extent that the Office may deem it fit to apply the art vis-à-vis an obviousness rejection,

Applicants respectfully submit the invention as presently claimed is non-obvious in view of the cited art.

**Rejection under 35 U.S.C. § 103**

a. Claims 8 and 19 stand rejected under 35 USC § 103(a) as being unpatentable over Guo in view of Guerin '939, Ong or Guerin '320. Applicants traverse this ground of rejection and incorporate their preceding comments.

As previously argued, Guo does not teach or suggest the present invention, namely the detailed claimed self-supporting article. Applicants further submit the teachings of Guerin '939, Ong and Guerin '320 do not overcome the deficiencies in the primary reference, Guo.

Guo discloses a hydrogenated carboxylated NBR (HXNBR). Guo further disclosed that HXNBR may be used in the manufacture of shaped articles, such as seals, belts and hoses. See Paragraph 0032. Despite the generalization by the Examiner, Guo does not suggest to use HXNBR as a tape. Rather, due to its abrasion resistance, Guo discloses the use of HXNBR in high hardness roll applications. Applicants further submit, even if Guo disclosed the use of HXNBR as an adhesive polymer, Guo does not teach or suggest layering or interposing the claimed composite between one or more supporting means. Further, Guo does not teach or suggest and HXNBR with the claimed Mooney below 10 and polydispersity index.

Applicants submit even in combination with Guerin '939, Ong or Guerin '320 the secondary references fail to make up the deficiencies in Guo. As discussed in previous responses, Guerin discloses a polymer composite comprising at least one optionally hydrogenated nitrile rubber polymer having a Mooney viscosity below 30, at least one filler and optionally at least one crosslinking agent. Guerin further discloses the use of such nitrile rubber form the manufacture of shaped articles generally. For example, Guerin broadly teaches the use of such rubber in the manufacture of a seal, hose, bearing pad, stator, well head seal, etc. Guerin does not teach or suggest the claimed low Mooney HXNBR, nor does it disclose a use thereof as an adhesive. Further, Ong only discloses a polymer blend containing at least one nitrile rubber having a Mooney

viscosity below 10 and at least one nitrile rubber polymer having a Mooney viscosity above 30, wherein the polymer blend has a multi-modal molecular weight distribution. Ong further discloses the use of such nitrile rubber for the manufacture of shaped articles generally. Ong does not teach or suggest the claimed adhesive shaped article.

b. Claims 6-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and Mori et al. Applicants traverse these grounds of rejection and incorporate their previous comments submitted regarding Ozawa and Mori et al.

Ozawa does not disclose that a HXNBR in principle may be used to prepare a self-supporting shaped article nor does it disclose that the specific properties (Mooney <10; PDI <2,2) of the HXNBR polymer.

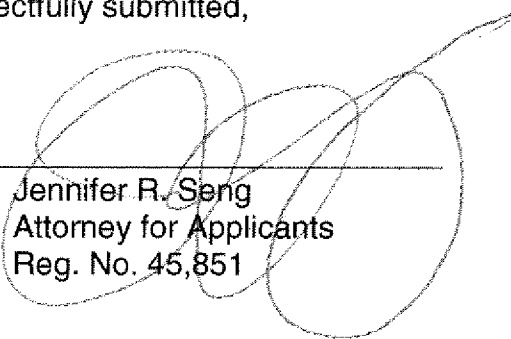
Applicants submit Mori does not close this gap, as Mori discloses a highly saturated nitrile rubber which is used together with fibers to manufacture a belt. Mori does not disclose that an adhesive polymer composite on the basis of the specific HXNBR is layered on or interposed between one or more supporting means. In consequence Mori is not suited to render the present invention according to new claim 6, obvious on its own. Nor is a combination of Ozawa and Mori suited to motivate a person skilled in the art to prepare a self-supporting shaped article as claimed in claim 6. Accordingly, Applicants request withdrawal of these grounds of rejection.

It is respectfully submitted that the instant application is presently in condition for allowance. Notice to the effect is earnestly solicited. If there are any further issues in this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

The USPTO is hereby authorized to charge any fees for an extension of time or those under 37 C.F.R. 1.16 or 1.17, which may be required by this paper, including Terminal Disclaimers, and/or to credit any overpayments to Deposit Account No. 50-2527.

Respectfully submitted,

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